

Applicant : Alan D. Snow *et al.*  
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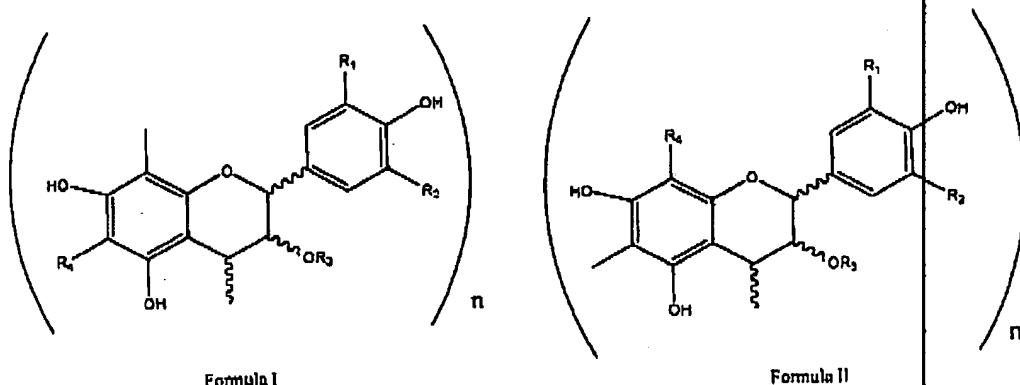
Attorney's Docket No.: 017170-0010-999  
CAM No.: 712576-999005

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-27. (Canceled)

28. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a proanthocyanidin, selected from a group of proanthocyanidins characterized by Formula I or Formula II, and proanthocyanidins characterized by oligomeric combinations of Formula I and Formula II, and pharmaceutically acceptable salts of the foregoing proanthocyanidins:



where:

n is an integer of 2 to 20;

R<sub>1</sub> and R<sub>2</sub> are independently selected from hydrogen and hydroxy;

R<sub>3</sub> is selected from the group consisting of hydrogen, optionally substituted O-glycosyl,

-C(O)-(optionally substituted aryl), and BC(O)-(optionally substituted heteroaryl);

R<sub>4</sub> is selected from the group consisting of hydrogen, catechin, epicatechin, epiafzelechin, and gallates of catechin and epicatechin;

the lines at the 2-, 3- and 4-position denote optional R and S configurations;

the lines at the 4- and 8-positions in Formula I and at the 4- and 6- positions in Formula II denote possible oligomer bonds between individual units, and

the substitutions at R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub>, and the configurations at the 2-, 3-, and 4-positions, and the oligomer bond configurations of 4-8 and 4-6 are independently selected for each individual

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unit and a pharmaceutically acceptable carrier, diluent, or excipient, wherein the proanthocyanidin constitutes at least 70 % of an active component of the composition, and therapeutic amount of the proanthocyanidin is selected for efficacy in treating amyloid,  $\alpha$ -synuclein or NAC fibrillogenesis in a mammalian subject.

29. (Previously presented) The composition of claim 28, wherein the therapeutically effective amount of the proanthocyanidin comprises a dosage in the range of about 10 to 1,000 mg/kg of body weight of the subject.

30. (Previously presented) The composition of claim 29, wherein the therapeutically effective amount of the proanthocyanidin comprises a dosage in the range of about 10 to 100 mg/kg of body weight of the subject.

31. (Previously presented) The composition of claim 29, wherein the proanthocyanidin is selected from the group consisting of dimers and trimers of epicatechin, epiafzelechin and catechin, and the pharmaceutically acceptable salts thereof.

32. (Previously presented) The composition of claim 31, wherein the proanthocyanidin is the procyanidin dimer epicatechin-4 $\beta$ - $\rightarrow$ 8-epicatechin.

33. (Previously presented) The composition of claim 31, wherein the proanthocyanidin is the procyanidin dimer catechin-4 $\alpha$ - $\rightarrow$ 8-epicatechin.

34. (Previously presented) The composition of claim 31,-wherein the proanthocyanidin is the procyanidin dimer epiafzelechin-4 $\beta$ - $\rightarrow$ 8-epicatechin.

35. (Previously presented) The composition of claim 31, wherein the proanthocyanidin is the procyanidin trimer epicatechin-4 $\beta$ - $\rightarrow$ 8-epicatechin-4 $\beta$ - $\rightarrow$ 8-epicatechin.

36. (Previously presented) The composition of claim 31 comprising a mixture of two or more of the proanthocyanidins selected from the group consisting of dimers and trimers of epicatechin, epiafzelechin and catechin, and the pharmaceutically acceptable salts thereof.

37. (Previously presented) The composition of claim 36 comprising a mixture of two or more of the procyanidins selected from the group consisting of the dimers and trimers of epicatechin, and the pharmaceutically acceptable salts thereof.

38. (Previously presented) The composition of claim 36 comprising a mixture of two or more of the proanthocyanidins selected from the group consisting of epicatechin-4 $\beta$ - $\rightarrow$ 8-

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epicatechin, catechin-4 $\alpha$ - $\rightarrow$ 8-epicatechin, epiafzelechin-4 $\beta$ - $\rightarrow$ 8-epicatechin, and epicatechin-4 $\beta$ - $\rightarrow$ 8-epicatechin-4 $\beta$ - $\rightarrow$ 8-epicatechin.

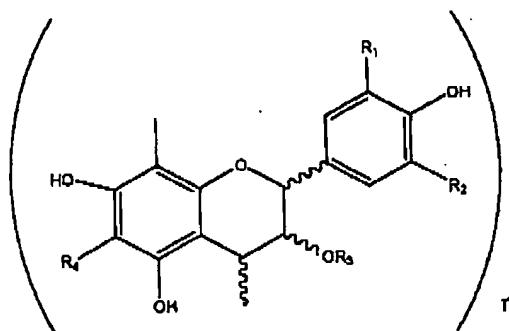
39. (Canceled).

40. (Canceled).

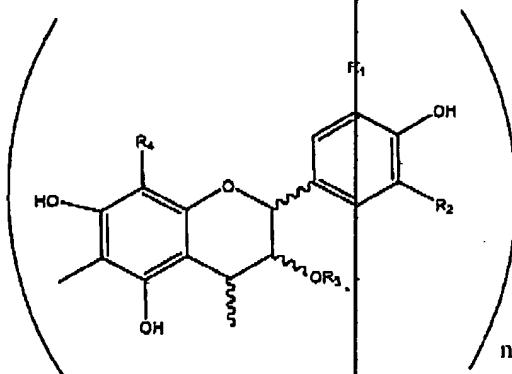
41. (Canceled).

42-54. (Canceled)

55. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a mixture, selected from a group of proanthocyanidins characterized by Formula I or Formula II, and proanthocyanidins characterized by oligomeric combinations of Formula I and Formula II, and pharmaceutically acceptable salts of the foregoing proanthocyanidins:



Formula I



Formula II

where:

n is an integer of 2 to 20;

R<sub>1</sub> and R<sub>2</sub> are independently selected from hydrogen and hydroxy;

R<sub>3</sub> is selected from the group consisting of hydrogen, optionally substituted O-glycosyl,

-C(O)-(optionally substituted aryl), and BC(O)-(optionally substituted heteroaryl);

R<sub>4</sub> is selected from the group consisting of hydrogen, catechin, epicatechin, epiafzelechin, and gallates of catechin and epicatechin;

the lines at the 2-, 3- and 4-position denote optional R and S configurations;

the lines at the 4- and 8-positions in Formula I and at the 4- and 6- positions in Formula II denote possible oligomer bonds between individual units, and

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the substitutions at R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub>, and the configurations at the 2-, 3-, and 4-positions, and the oligomer bond configurations of 4-8 and 4-6 are independently selected for each individual unit, and

wherein the mixture constitutes at least 70% of an active component of the composition.

56. (Previously presented) The composition of claim 55, wherein one or more of the proanthocyanidins are selected from the group consisting of the dimers and trimers of epicatechin, epiafzelechin, and catechin, and the pharmaceutically acceptable salts thereof.